

LOW DIELECTRIC CONSTANT MATERIAL FOR INTEGRATED CIRCUIT FABRICATION

Abstract of the Disclosure

A method is provided for forming a material with a low dielectric constant, suitable for electrical isolation in integrated circuits. The material and method of manufacture has particular use as an interlevel dielectric between metal lines in integrated circuits. In a disclosed embodiment, methylsilane is reacted with hydrogen peroxide to deposit a silicon hydroxide layer incorporating carbon. The layer is then treated by exposure to a plasma containing oxygen, and annealing the layer at a temperature of higher than about 450°C or higher.

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